

REMARKS

Claims 1, 2, and 16-27 are pending in this application after this amendment. Claims 1 and 20 are independent. Based on the remarks included herein, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections.

In the outstanding Official Action, the Examiner rejected claims 1, 2, and 16-26 under 35 U.S.C. §103(a) as being unpatentable over Anderson (USP 6,498,623) in view of Hashimoto (USP 6,972,799); and rejected claim 27 under 35 U.S.C. §103(a) as being unpatentable over Anderson in view of Hashimoto and further in view of Yamazaki (USP 5,604,537). Applicant respectfully traverses these rejections.

Claim Rejections – 35 U.S.C. §103(a)

In support of the Examiner's rejection of claim 1, the Examiner admits that *Anderson et al.* fails to disclose the detection device and the changing device as claimed and relies on the teachings of *Hashimoto* to cure the deficiencies of the teachings of *Anderson et al.* citing to various portions of the Hashimoto reference. Applicant respectfully disagrees with the Examiner's characterization of these references.

Claim 1 requires an electronic camera, comprising a display to display a sequence of captured images of an object; a detection device, which detects brightness of the object; an imaging device which captures the sequence of images and outputs image signals for said sequence of images at a rate defined by an imaging cycle of said imaging device, said imaging cycle defining a maximum exposure period for said imaging device for the captured sequence of images; a changing device which automatically changes a default imaging cycle of the imaging device by doubling according to the brightness of the object, thereby changing the maximum exposure period for said imaging device for the captured sequence of images, wherein the changing device doubles the default imaging cycle at least once when the brightness of the object is lower than the brightness corresponding to the default imaging cycle; an image memory for temporarily storing the image signals sequentially outputted from the imaging device, said image

signals in the image memory are read out with a predetermined interval and outputted to the display; and a controller which controls the display to display said sequence of images according to the image signals while the imaging device is capturing subsequent images, such that said display shows a live image of the captured sequence of images to enable determination of an image-capturing angle of view.

In contrast, Hashimoto recites an ordinary mode reading out images from the CCD in a 1/30-sec cycle, and a high-speed mode reading out image from the CCD in a 1/60sec cycle, and a high-speed AF by high-speed mode is performed if the object is bright, and an ordinary AF by ordinary mode is performed if the object is dark or if not enough contrast can be obtained.

The present invention is characterized in changing the cycle to a longer one than the default cycle if the object is dark, and lengthening the time of one frame (exposure time) by sacrificing the frame rate (by decreasing the frame rate).

The Examiner misreads that Hashimoto's cycle in high-speed mode as the default cycle and the cycle in the ordinary mode as the cycle doubling the default cycle when the object gets darker.

Applicant respectfully submits that Hashimoto's high-speed mode cannot be considered as default cycle.

Hashimoto switches to ordinary mode driving the CCD with 1/30-sec cycle if the object is dark or if enough contrast cannot be obtained, reads out the image data from the entire area of the CCD and performs ordinary AF based on the read out image data and displays video.

On the other hand, Hashimoto switches to high-speed mode driving the CCD with 1/60-sec cycle if the object is bright (if the charge accumulating time at the CCD is sufficient with 1/60-sec), reads out only the data of the central area of the CCD (Hashimoto: Fig. 2B), and performs high-speed AF based on this central area data, and displays the image (still image) just before switching to the high-speed mode and makes sure that video with only the central area of

the imaging place (video with its top and bottom of the imaging plane missing) does not get displayed.

Moreover, the reason Hashimoto only reads out the data from the central area of the CCD when in high-speed more is in order to read out data necessary for AF (high-speed AF) from the CCD quickly.

In other words, in Hashimoto, ordinary AF in ordinary mode and high-speed AF in high-speed mode are different in their cycles driving the CCD, and while it reads out data from the entire area of the CCD when in ordinary AF, it reads out only the data of the central area of the CCD when in high-speed AF to be able to read out the data quickly.

However, the high-speed mode cannot teach the default cycle in Hashimoto.

First, Hashimoto is an auto focusing apparatus performing AF (auto focusing) based on the image read out from the CCD, and if the object was bright, it performs **high-speed AF** by reading out images from the CCD with high-speed mode. If the high-speed mode's cycle was the default cycle, the AF in ordinary mode performs **low-speed AF**, which will be different from Hashimoto who intend to perform AF in high-speed.

Second, while Hashimoto reads out data from the entire area of the CCD when in ordinary mode, it only reads out the data from the central area of the CCD for speeding up the read-out procedure when in high-speed mode (Fig. 2B).

Third, when in high-speed mode, it is impossible to display video since only the data from the central area of the CCD is read out. Therefore, if it enters the high-speed mode, the image just before entering the high-speed mode (image loaded when in ordinary mode) will always be outputted (in other words, still images will be displayed).

The above first through third reasons are why Hashimoto cannot be considered to be disclosing that the high-speed mode's cycle is the default cycle.

Although Hashimoto displays video (live-view image) based on the data read out from the entire area of the CCD when in ordinary mode, if it was switched from ordinary mode to high-speed mode, the image loaded just before the switching is always outputted (the still image is displayed), and it is not able to display video in high-speed mode. This point is one of the major differences between Hashimoto and the claimed invention.

In other words, the claimed invention is characterized in changing the frame rate according to the brightness of the object, and especially if the object is dark, a bright video is displayed by making the frame rate lower than the default frame rate (making the exposure time longer), resulting in having an effect of always being able to display a video with the desired brightness regardless of the brightness of the object.

On the other hand, Hashimoto only displays video when in ordinary mode and does not display video in high-speed mode. **It is not possible to display video in high-speed mode.** As such, Hashimoto does not disclose reading out data from the CCD with different frame rates according to the brightness of the object, and always displaying video with appropriate brightness based on the read out data.

As such, the Examiner's application of Hashimoto to the claimed invention is wholly improper. It is respectfully submitted that for the reasons noted above, the disclosure Hashimoto is wholly insufficient to teach the elements purported by the Examiner. As the other references cited by the Examiner fail to teach or suggest these claim elements, Applicant respectfully submits that claim 1 is not obvious, and thereby patentable, over the references as cited. It is respectfully requested that the outstanding rejection be withdrawn.

It is respectfully submitted that claims 1, 16-19 and 27 are allowable for the reasons set forth above with regard to claim 1 at least based upon their dependency on claim 1. It is further respectfully submitted that claim 20 has been amended to recite elements similar to those discussed above with regard to claim 1 and thus claim 20, together with claims dependent thereon are allowable for the reasons set forth above with regard to claim 1.


Conclusion

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Catherine M. Voisin Reg. No. 52,327 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

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